

On multiple prefixation in Bulgarian

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Abstract

In this paper, I discuss instances of multiple prefixation in Bulgarian in the context of the aspectual properties of the Bulgarian verbal system. Up to seven prefixes can stack on a single verbal root in Bulgarian. All of them but the innermost one appear with a relatively stable meaning regardless of the meaning of the verbal stem they attach to. Importantly, prefixes will be shown to be able to attach to perfective as well as imperfective stems. The phenomenon is an argument against the common view that prefixes uniformly mark perfectivity in Bulgarian. On the bases of prefix co-occurrence and scope interaction, predictions will be made about the derivational hierarchy in case of stacking.

1. Introduction

Bulgarian is a Slavic language with rich tense and aspectual morphology that shows up exclusively on the verb. Verbs normally form aspectual pairs, in which two forms contrast in ‘outer’ aspect; that is to say, a single verbal meaning in Bulgarian is most often rendered by two verbal forms, one being perfective, the other one imperfective. Perfective verbs in Bulgarian cannot be embedded under phasal verbs, and they are ungrammatical in main clauses in present and imperfect tense. They are also ungrammatical as complements of the perfective verb *uspeja* ‘manage.’ Finally, perfective verbs do not form negative imperatives, active present participles, gerunds, or verbal nouns suffixed in *-ne*. Imperfective verbs are grammatical in main clauses in present and imperfect tenses, where they yield either progressive or habitual readings. Importantly, however, there are no positive tests for identifying imperfectivity.

Unlike common views on Slavic, in Istratkova (in progress) I extensively argue that prefixes in Bulgarian do not mark perfectivity for at least two reasons: [i] very many imperfective verbs are prefixed; [ii] quite a number of perfective verbs are not prefixed. My suggestion is then that prefixes should be considered on the lines of inner aspect.

Perfective verbs in Bulgarian can be simplex, but they can also be prefixed or contain the suffix *-n-/-na-*. Imperfective verbs too can be simplex, or they can be derived by one of the suffixes *-a-* (‘*-a-*’), *-va-*, *-ava-* (‘*-ava-*’), *-uva-*. Deriving (im)perfectivity often implies change in the root

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vowel and/or consonant gradation. In a few instances suppletion is attested as well. Derivational patterns are illustrated below:^{1,2}

(1)		PERFECTIVE	IMPERFECTIVE	
	a.	za-piša	za-pis-va-m	‘put down in writing’
	b.	na-piša	na-pis-va-m	‘write down’
	c.	pre-piša	pre-pis-va-m	[i] ‘copy,’ [ii] ‘cheat’
	d.	pod-piša	pod-pis-va-m	‘sign’
	e.	do-veda	do-vežd-a-m	‘bring someone’
	f.	za-veda	za-vežd-a-m	‘take someone’
	g.	iz-veda	iz-vežd-a-m	‘take someone out’
	h.	vid’a	vižd-a-m	‘see’
	i.	za-vid’a	za-vižd-a-m	‘envy’
	j.	obuja	obu-va-m	‘put on shoes, trousers, etc.’
	k.	pre-obuja	pre-obu-va-m	‘change shoes, trousers, etc.’

The examples above clearly show that in terms of function, prefixes do not uniformly contribute to perfectivity. Both perfective and imperfective verbs can be prefixed. In terms of meaning, prefixes do not exhibit any uniform behavior either. They modify the meaning of a verbal stem to various degrees, and sometimes even change it completely.

Importantly, there is a large class of simplex homogeneous verbs in Bulgarian. Examples of such verbs are given below:

(2)	a.	misl’a ‘think’
	b.	običam ‘love’
	c.	znam ‘know’
	d.	blest’a ‘glitter’
	e.	sp’a ‘sleep’
	f.	piša ‘write’
	g.	živeja ‘live’
	h.	četa ‘read’

My claim is that these do not have perfective counterparts. When prefixes (or the semelfactive suffix *-n-/-na-* for that matter) attach to such verbs, the new verbs normally become quantized, and consequently come in perfective-imperfective pairs, as shown below:

¹In all the examples throughout the paper, verbs are given in first person singular, present tense, as there is no infinitive in Bulgarian. The existence of three conjugations in Bulgarian is the reason why verbs exhibit different person/number agreement markers. Agreement markers themselves are only singled out after an imperfectivizing suffix. In case there is no such suffix, agreement markers are not singled out from the verbal stem. Prefixes are given as they appear underlyingly before the application of assimilatory phonological rules.

²See the Introduction to this volume for parsing, glossing, and abbreviatory conventions.

(3)	PERFECTIVE	IMPERFECTIVE	
a.	iz-misl'a	iz-misl'-a-m	'make up (a story)'
b.	za-običam	za-obič-va-m	'start to love'
c.	po-znam	po-zna-va-m	'guess'
d.	za-blest'a	za-blet'-ava-m	'start to glitter'
e.	bles-na	bles-va-m	'flash'
f.	za-sp'a	za-spi-va-m	'fall asleep'
g.	pre-piša	pre-pis-va-m	'copy'
h.	do-živeja	do-živ'-ava-m	'live through'
i.	pro-četa	pro-čit-a-m	'read completely'

In Istratkova (in progress), I suggest that quantization is a necessary requirement for the aspectual operator to be able to assign to the verb one of two values: perfective (not marked overtly), or imperfective (marked by one of the suffixal variants: *-a*-(*'a*-), *-va*-, *-ava*-(*'ava*-), *-uva*-). The assumption defended in Istratkova (in progress) is that inceptive, terminative, delimitative and semelfactive all qualify as quantized. Crucially, since the aspectual head only projects on top of already quantized predicates, homogeneous verbs such as the ones in (2) remain aspectless. Those behave as imperfective “by default” as it were (recall that there is no positive test for identifying imperfectivity as opposed to a number of distributional tests for perfectivity).

The quantization requirement imposed by the aspectual operator explains the existence of simplex perfective verbs, from which imperfective verbs can be derived directly without prefixation. Such verbs are already quantized when unprefixated (cf. (4)). Further prefixation only specifies some Aktionsart meaning of the already quantized verb (cf. (5a)), or else totally changes the meaning of the whole lexical entry (cf. (5b)).

(4)	PERFECTIVE	IMPERFECTIVE	
a.	kup'a	kup-uva-m	'buy'
b.	dam	da-va-m	'give'
(5)	PERFECTIVE	IMPERFECTIVE	
a.	iz-kup'a	iz-kup-uva-m	'buy everything, completely'
b.	pro-dam	pro-da-va-m	'sell'

Observe that if the prefix does not make the verb quantized, neither perfectivity nor imperfectivity can be derived (cf. (6)). In such cases, both the simplex and the prefixed verb stay imperfective by default (both being non-quantized). Now compare (7) to (6e-f). If the same prefixed verb has different meanings, both perfectivity and imperfectivity can be derived in case of a quantized denotation as in (7).

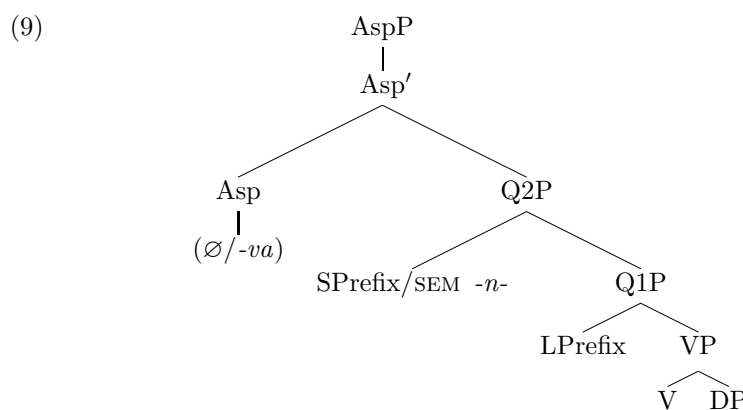
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- | | | | | | |
|-----|------------------------------|--|----------------------------|--|-----------------------------|
| (6) | UNPREFIXED
(IMPERFECTIVE) | | PREFIXED
(IMPERFECTIVE) | | SUFFIXED
with <i>-va</i> |
| a. | vis'a 'hang' | | za-vis'a 'depend' | | *za-vis'a-va-m |
| b. | leža 'lie down' | | pod-leža 'be subject to' | | *pod-leža-va-m |
| c. | čuvstvam 'feel' | | pred-čuvstvam 'sense' | | *pred-čuvstva-va-m |
| d. | šestvam 'march' | | pred-šestvam 'precede' | | *pred-šestva-va-m |
| e. | stoja 'stand' | | pred-stoja 'be due' | | *pred-stoja-va-m |
| f. | stoja 'stand' | | ot-stoja 'be distant from' | | *ot-stoja-va-m |
- (7) stoja^I 'stand' — ot-stoja^P/ot-stoja-va-m^I 'defend one's opinion'

Finally, **simplex** loan verbs, most of which already contain the suffix *-uva-*, (cf. (8a)) are normally considered biaspectual unless they are homogeneous. Importantly, such verbs can have an explicit (derived) imperfective form, if the phonology allows (cf. (8b)).

- (8) a. arestuvam^{P/I} 'arrest'
 b. blokiram^{P/I}/blokir-va-m^I 'block'

Thus, I think we can safely conclude that the aspectual head indeed only projects on top of quantized verbs. In Istratkova (in progress), where among other things I examine the interaction between the semelfactive suffix *-n-* and prefixes in Bulgarian, I show that quantization happens on two levels below AspP: Q1P and Q2P, as is shown in (9). Importantly, the co-occurrence of morphemes merged in the head positions Q1 and Q2 is such that it always results in a single quantization. Such an observation is in line with Filip (2003) who, in her analysis of Czech prefixes, tries to do justice to the requirement (Tenny 1994) that there be a single quantization per predicate.



As is obvious, a distinction is made between two types of prefixes in (9). The so-called *lexical* prefixes are merged lower as opposed to *superlexical* prefixes, which compete with the semelfactive suffix for a higher structural

position. I explain the difference between the two in somewhat more theoretical terms in the next section. Before doing that though, I would like to discuss an apparent problem for the structure in (9).

It is simplex transitive verbs that apparently pose a problem. These look like they head a quantized VP if their object is quantized, and a non-quantized VP if the object is homogeneous. Since I suggest that Asp projects on top of quantized predicates, we would expect for it to project on top of simplex homogeneous verbs when such verbs take quantized nominal complements. However, this is by no means the case in Bulgarian. Consider the example in (10):

- (10) Maria jade jabǎlka edin čas/*za edin čas.
*Maria ate apple one hour/*for one hour*
 ‘Maria ate an apple for an hour (*in an hour).’

As (10) shows, if you “ate an apple” in Bulgarian, this has no implications as to the result of the action, i.e. there is no entailment that the apple has been eaten. The only implication is that the action of eating is over. The apple itself might still not have been consumed. I therefore conclude that simplex homogeneous verbs have as it were a [-ADD TO] feature and always head a non-quantized VP whatever the nature of their nominal complement (see Vitkova 2004 for a similar view and a more extensive discussion on related phenomena). In other words, in Bulgarian it is the verb itself that should be taken into consideration when “calculating” the quantizedness of a predicate. Homogeneous verbs, regardless of the nature of their complement, do not trigger Asp projection and remain imperfective by default. Quantized verbs (prefixed or not) allow for the Asp head to project and assign a perfective (unmarked) or imperfective (marked with (a variant of) *-va-*) value to the verb (for details see Istratkova in progress).

Now, given the assumptions outlined so far, here is an important question: If prefixes are not in Asp since they do not mark perfectivity, where do they all go given the existence of examples like (11)?

- (11) iz-po-na-raz-pro-dam^P/iz-po-na-raz-pro-da(-va)-m^I
 ‘sell completely many things in excess one by one’

The fact that more than two prefixes co-occur certainly suggests that it is not enough to reserve only two slots for all of them as in (9). Moreover, the fact that I consider prefixes to be inner aspectual markers (i.e. they quantize rather than perfectivize) makes it even more difficult to determine the structural position of prefixes in stacks if one is to take seriously the requirement that there be a single quantization per predicate (Tenny 1994). In what remains, I will look in more detail at cases of multiple prefixation. The ultimate goal is to show which prefixes in Bulgarian are most likely to stack in what order, what their meaning contribution is in case of stacking, and to what extent stacking is compatible with the idea that there be

only one quantization per predicate. The rest of the paper is organized as follows: Section 2 briefly outlines the theoretical background on the basis of which the data will be analyzed. In Section 3, I present relevant data illustrating stacking in Bulgarian. These data are discussed in Section 4. In Section 5, I suggest an analysis and a derivational hierarchy accounting for the stacking phenomenon. Section 6 concludes the paper and puts forth some further implications about stacking in Slavic in general.

2. Lexical versus Superlexical Prefixes

Traditionally, Slavic prefixes are taken to be of two kinds, lexical and superlexical, the division being based on a semantic criterion. The distinction has now almost turned into a classic one. The term “superlexical” was first used by Smith (1991) to refer to what is known as *Aktionsarten* or sublexical prefixes in the sense of Townsend (1975). Superlexical prefixes are said to have stable meanings like ‘begin,’ ‘finish,’ ‘do for a while,’ etc. Lexical prefixes, on the other hand, do not have stable meanings. Rather, they exhibit rich idiosyncrasy. The latter are frequently compared to particles in Germanic languages. Babko-Malaya (1999) distinguishes between pure perfectivizing and resultative lexical prefixes on the basis of their meaning contribution. Pure perfectivizers only make a verb perfective with no consequent meaning changes.

Babko-Malaya (1999) also suggests that lexical prefixes be adjoined to a lexical head presyntactically, whereas superlexical ones be adjoined to a functional head through syntactic incorporation. This claim leads to a prediction that bears on the phenomenon known as stacking in Slavic: whenever two prefixes co-occur on a single verbal root, the innermost should be a lexical one. The prediction is born out in Russian, where two prefixes at most attach to a verbal root. (In fact, a third prefix can also be added in Russian, though the resulting combination is not a common one; Romanova, p.c.). In this paper, I explore data from Bulgarian on the face of the claim just outlined. Consequently, I extend the claim to cases where stacking of more than two prefixes is attested. It will be shown that whenever more than two prefixes stack on top of each other, only the innermost is lexical, and the rest are superlexical. However, superlexical prefixes will also be shown to be able to change their semantics in case of stacking, the meaning modification being most probably determined by the prefixes which appear outside. Even so, the distinction between lexical and superlexical prefixes depending on the stability of their meanings can still be kept given the predictability of the meaning changes on the basis of scope relations.

3. Data

In Bulgarian, up to seven prefixes can attach to a single verbal root though combinations of more than four are infrequent, as illustrated in the tables on

the following pages. For reasons of space, only two roots have been chosen as illustrative examples of stacking in Bulgarian (*kaža* ‘tell, say’ in Table 1, *dam* ‘give’ in Tables 2–4). Nevertheless, those suffice to provide quite an adequate idea as to the general principles behind prefix combinations. The data in the tables to follow are organized in the following way: In each table, a simplex verb is taken and is prefixed with a lexical prefix. The resulting combination (which semantically is a new verb) is consequently prefixed with a number of superlexical prefixes (those appear with relatively stable meanings). Each superlexical prefix is also shown as being capable or incapable of functioning as a lexical prefix on the same simplex verb. For the sake of simplicity, the respective combinations are not further analyzed as bases for multiple prefixation in the same table. This is of course not to say that those cannot exhibit stacking. The phenomenon in question, however, is illustrated for a single lexical prefix, that found in *prodam* ‘sell,’ in Tables 3–4. All the grammatical combinations are exhaustively listed together with the most relevant ungrammatical ones.

4. Discussion

Prefixes with the same phonological content can be both lexical and superlexical. That is, when inner to the verbal stem they are most likely to exhibit idiosyncrasy, whereas outside another prefix they have a relatively stable semantic meaning. This is shown again in (12) below:³

- (12) *kaža* ‘say’ *iz-kaža* ‘express’ *raz-kaža* ‘narrate’
dam ‘give’ *iz-dam* ‘publish’ *raz-dam* ‘distribute’
- (13) *iz-raz-kaža* ‘narrate completely’
iz-raz-dam ‘distribute completely’

In (12) the prefixes *iz-* and *raz-* are both lexical: they are inner to the verb and do not have stable meanings. Rather, they are interpreted idiosyncratically.

In (13), on the other hand, *raz-* remains closer to the stem and retains its idiosyncrasy, whereas *iz-* is attached outside and its meaning is decomposable as ‘completely.’

A superlexical prefix can also attach to a simplex verb. If, however, the innermost prefix and the verbal root can also be interpreted as an idiosyncratic complex, the innermost prefix is most likely to be interpreted as a lexical one, i.e. its systematic meaning is not immediately available:

- (14) a. *na-dam* ‘give many things, or to many’
b. *na-kaža* [i] ‘punish’; [ii] ‘say many things’

³In this section, examples with perfective verbs will be given only unless indicated otherwise.

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Perfective	Gloss	Imperfective
kaža	‘tell,’ ‘say’	kaz-va-m
raz-kaža	‘narrate’	raz-kaz-va-m
*pre-kaža		*pre-kaz-va-m
pre-raz-kaža	‘narrate again’	pre-raz-kaz-va-m
na-kaža	[i] ‘punish’; [ii] ‘say many things’	na-kaz-va-m
na-raz-kaža	‘narrate many stories’	na-raz-kaz-va-m
*na-pre-raz-kaža		*na-pre-raz-kaz-va-m
po-kaža	‘show’	po-kaz-va-m
po-raz-kaža	‘narrate a little/for a while’	po-raz-kaz-va-m
po-na-raz-kaža	‘tell a few stories’	po-na-raz-kaz-va-m
po-(<i>*na</i> -)pre-raz-kaža	‘narrate again a little’	po-(<i>*na</i> -)pre-raz-kaža
iz-kaža	‘express’	iz-kaz-va-m
?iz-raz-kaža	‘narrate completely’	?iz-raz-kaz-va-m
iz-po-raz-kaža	‘narrate completely little by little’	iz-po-raz-kaz-va-m
*iz-na-raz-kaža		*iz-na-raz-kaz-va-m
iz-po-pre-raz-kaža	‘narrate again completely little by little’	iz-po-pre-raz-kaz-va-m
iz-po-na-pre-raz-kaža	‘narrate again many stories completely little by little’	iz-po-na-pre-raz-kaz-va-m
*za-kaža	‘start telling’	?za-kaz-va-m
*za-raz-kaža	‘start narrating’	za-raz-kaz-va-m
*za-pre-raz-kaža	‘start narrating again’	za-pre-raz-kaz-va-m
*za-po-raz-kaža		*za-po-raz-kaz-va-m
*za-na-raz-kaža		*za-na-raz-kaz-va-m
*za-po-na-raz-kaža		*za-po-na-raz-kaz-va-m
*za-iz-po-na-raz-kaža	‘start narrating many stories little by little’	za-iz-po-na-raz-kaz-va-m
*za-po-pre-raz-kaža		*za-po-pre-raz-kaz-va-m
*za-na-pre-raz-kaža		*za-na-pre-raz-kaz-va-m
*za-po-na-pre-raz-kaža		*za-po-na-pre-raz-kaz-va-m
*za-iz-po-na-pre-raz-kaža	‘start narrating again many stories little by little’	za-iz-po-na-pre-raz-kaz-va-m

 Table 1: *kaža* ‘tell, say’

Perfective	Gloss	Imperfective
dam	‘give’	da-va-m
raz-dam	‘distribute’	raz-da-va-m
pre-dam	[i] ‘hand over, hand in’; [ii] ‘betray’	pre-da-va-m
pre-raz-dam	‘redistribute’	pre-raz-da-va-m
na-dam	‘distribute a lot, many times, to many’	na-da-va-m
*pre-na-raz-dam		*pre-na-raz-da-va-m
*na-pre-raz-dam		*na-pre-raz-da-va-m
po-dam	‘pass’	po-da-va-m
po-raz-dam	‘distribute a little’	po-raz-da-va-m
po-pre-raz-dam	‘redistribute a little’	po-pre-raz-da-va-m
*po-na-pre-raz-dam		*po-na-pre-raz-da-va-m
*po-pre-na-raz-dam		*po-pre-na-raz-da-va-m
iz-dam	‘publish’	iz-da-va-m
?iz-raz-dam	‘distribute completely’	?iz-raz-da-va-m
iz-po-raz-dam	‘distribute completely little by little’	?iz-po-raz-da-va-m
*iz-na-raz-dam		*iz-na-raz-da-va-m
iz-po-na-raz-dam	‘distribute completely many things or to many little by little’	iz-po-na-raz-da-va-m
?iz-pre-raz-dam	‘redistribute completely’	?iz-pre-raz-da-va-m
*iz-na-pre-raz-dam		*iz-na-pre-raz-da-va-m
iz-po-pre-raz-dam	‘redistribute completely little by little’	iz-po-pre-raz-da-va-m
iz-po-na-pre-raz-dam	‘redistribute completely to many or many things little by little’	iz-po-na-pre-raz-da-va-m
za-dam	‘assign’	za-da-va-m
*za-(*po-)(*na-)raz-dam	‘start distributing’	za-(*po-)(*na-)raz-da-va-m
*za-iz-po-na-raz-dam	‘start distributing to many or many things little by little’	za-iz-po-na-raz-da-va-m
*za-(*po-)(*na-)pre-raz-dam	‘start redistributing’	za-(*po-)(*na-)pre-raz-da-va-m
*za-iz-po-na-pre-raz-dam	‘start redistributing to many little by little’	za-iz-po-na-pre-raz-da-va-m

Table 2: *dam* ‘give,’ not including *prodam* ‘sell’

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Perfective	Gloss	Imperfective
pro-dam	‘sell’	pro-da-va-m
raz-pro-dam	‘sell everything, in excess’	raz-pro-da-va-m
?pre-raz-pro-dam	‘buy something and then sell it to the end’	?pre-raz-pro-da-va-m
raz-pre-pro-dam	‘sell again to the end’	raz-pre-pro-da-va-m
na-pro-dam	‘sell many things’	na-pro-da-va-m
?na-pre-pro-dam	‘sell again many things’	?na-pre-pro-da-va-m
*na-raz-pro-dam		*na-raz-pro-da-va-m
*na-raz-pre-pro-dam		*na-raz-pre-pro-da-va-m
*na-pre-raz-pro-dam		*na-pre-raz-pro-da-va-m
po-pro-dam	‘sell a little/for a while’	po-pro-da-va-m
po-raz-pro-dam	‘sell almost everything’	po-raz-pro-da-va-m
*raz-po-pro-dam		*raz-po-pro-da-va-m
po-na-pro-dam	‘sell a few things’	po-na-pro-da-va-m
*na-po-pro-dam		*na-po-pro-da-va-m
po-pre-pro-dam	‘sell again a little/for a while’	po-pre-pro-da-va-m
?po-na-pre-pro-dam	‘sell again a few things’	?po-na-pre-pro-da-va-m
po-raz-pre-pro-dam	‘sell again almost everything’	po-pre-raz-pro-da-va-m
*po-na-raz-pro-dam		*po-na-raz-pro-da-va-m
*po-na-raz-pre-pro-dam		*po-na-raz-pre-pro-da-va-m
?iz-pro-dam	‘sell completely’	?iz-pro-da-va-m
iz-raz-pro-dam	‘sell everything completely’	iz-raz-pro-da-va-m
iz-po-pro-dam	‘sell completely little by little’	iz-po-pro-da-va-m
*iz-na-pro-dam		*iz-na-pro-da-va-m
*iz-na-raz-pro-dam		*iz-na-raz-pro-da-va-m

Table 3: *prodam* ‘sell’ (< *dam* ‘give’) (part one)

Perfective	Gloss	Imperfective
iz-po-(na-)(raz-)pro-dam	‘sell (everything) completely (to many) little by little’	iz-po-(na-)(raz-)pro-da-vam
?iz-pre-pro-dam	‘sell again completely’	?iz-pre-pro-da-va-m
iz-po-pre-pro-dam	‘sell again completely little by little’	iz-po-pre-pro-da-va-m
*iz-na-pre-pro-dam		*iz-na-pre-pro-da-va-m
iz-po-na-pre-pro-dam	‘sell again many things completely little by little’	iz-po-na-pre-pro-da-va-m
iz-po-(na-)raz-pre-pro-dam	‘sell again everything (to many) completely little by little’	iz-po-(na-)raz-pre-pro-da-va-m
*za-pro-da-m	‘start selling’	?za-pro-da-va-m
*za-na-pro-dam		*za-na-pro-da-va-m
*za-po-pro-dam		*za-po-pro-da-va-m
*za-po-na-pro-dam		*za-po-na-pro-da-va-m
*za-po-na-pro-dam	‘start selling everything to many little by little’	za-po-na-pro-da-va-m
*za-raz-pro-dam	‘start selling in excess’	za-raz-pro-da-va-m
*za-na-raz-pro-dam		*za-na-raz-pro-da-va-m
*za-po-raz-pro-dam		*za-po-raz-pro-da-va-m
*za-po-raz-pro-dam	‘start selling everything to many little by little’	za-po-raz-pro-da-va-m
*za-raz-pro-dam	‘start selling in excess’	za-raz-pro-da-va-m
*za-na-raz-pro-dam		*za-na-raz-pro-da-va-m
*za-po-raz-pro-dam		*za-po-raz-pro-da-va-m
*za-iz-po-(na-)raz-pro-dam	‘start selling everything to many little by little’	za-iz-po-(na-)raz-pro-da-va-m
*za-raz-pre-pro-dam	‘start selling again in excess’	za-raz-pre-pro-da-va-m
*za-na-raz-pre-pro-dam		*za-na-raz-pre-pro-da-va-m
*za-po-raz-pre-pro-dam		*za-po-raz-pre-pro-da-va-m
*za-po-na-raz-pre-pro-dam		*za-po-na-raz-pre-pro-da-va-m
*za-iz-po-na-raz-pre-pro-dam	‘start selling again everything to many little by little’	za-iz-po-na-raz-pre-pro-da-va-m

Table 4: *prodam* ‘sell’ (< *dam* ‘give’) (part two)

In (14a), the prefix *na-* can well be interpreted within its systematic distributive meaning as no corresponding idiosyncratic interpretation is available to this combination unit. In (14b), on the other hand, the prefix-verb combination is most likely to be interpreted idiosyncratically, although the systematic reading of the prefixes is also available.

Stacking of superlexical prefixes only is also attested. Yet, whenever more prefixes attach to verbs such as the one in (15), in the absence of any context the innermost prefix will always be interpreted as lexical.

- (15) *iz-po-na-kaža* [i] ‘punish completely little by little’; [ii] ‘tell many things completely little by little’

Scrutiny of the data in the previous section makes it clear that the following meanings are inherent to superlexical prefixes in Bulgarian:

- (16) *pre-* ‘to do again’
raz- ‘to do in excess, to the very end, in many directions’
na- cumulative; requires plural or mass nominal arguments
po- distributive over subjects and objects
iz- ‘to do completely’
po- attenuative: ‘do to a certain extent, with low intensity’
za- ‘to begin’
do- ‘to finish’ NB: This prefix has not been taken into consideration in the data presented in Section 3. Relevant discussion below.
po- delimitative: ‘do for a while’; does not allow for stacking, see below

Now observe that according to the gloss given, it might seem as if *raz-* and *iz-* had the same meaning of completion. The examples in (17) however, clearly show that those two prefixes have two different meanings. Thus, the ungrammaticality of (17b) is expected, given the semantic incompatibility of the beginning and the end point.

- (17) a. *Započna da raz-proda-va.*
started.F.SG to raz-sell-IMPF
‘(S)he started to sell in excess.’
b. **Započna da iz-proda-va.*
started.F.SG to iz-sell-IMPF
‘(S)he started to sell completely’)

Let us now turn to the possible prefix combinations and seek regularities behind the seemingly chaotic nature of stacking. Below, I give a brief description of the selectional properties of each superlexical prefix together with the possible combinations resulting from these properties.

PRE-

Superlexical *pre-*, meaning ‘again,’ does not attach to homogeneous verbs

and selects for only a few simplex quantized verbs (e.g. *pre-kup'a* ‘re-buy’). In the majority of the cases *pre-* will attach to a prefixed quantized verb. This superlexical prefix is closest to the lexical prefix and allows for *raz-* (cf. (18a)) and attenuative *po-* (cf. (18b)) to stack outside. *Na-* and *iz-* can also stack directly on top of superlexical *pre-*, though somewhat marginally (cf. (18c,e)). *Pre-* selects equally well for both perfective and (derived) imperfective verbs.

- (18)
- a. *raz-pre-pro-dam* ‘sell again in excess’
 - b. *po-pre-pro-dam* ‘sell again a little bit’
 - c. *?na-pre-pro-dam* ‘sell again many things’
 - d. **na-pre-raz-kaža* (intended: ‘narrate again a lot’)
 - e. *?iz-pre-pro-dam* ‘sell again completely’
 - f. *?iz-pre-raz-kaža* ‘completely narrate again’

RAZ-

Superlexical *raz-*, meaning ‘in excess,’ does not attach to simplex verbs. It exclusively selects for prefixed quantized verbs. It can be followed by superlexical *pre-* and directly preceded by attenuative *po-* (cf. (19a)) and *iz-* (cf. (19b)). As (19a) indicates, attenuative *po-* modifies the meaning of *raz-*, i.e. lowers its intensity as it were. *Raz-* is equally good on perfective as well as imperfective verbs.

- (19)
- a. *po-raz-pre-pro-dam* ‘sell again a few things/with low intensity’
 - b. *iz-raz-pre-pro-dam* ‘completely sell again to the very end/in excess’

NA-

Cumulative *na-* attaches mostly to prefixed quantized verbs. It can also attach to a small number of simplex verbs, as long as they are quantized (cf. (20a)). Superlexical *pre-* can sometimes follow (cf. (20b)), though the fewer prefixes follow, the happier *na-* is. If *na+V* is good, then *po-na+V* is also good (cf. (20c-d)). Note, however, that attenuative *po-* changes the meaning of cumulative *na-* (cf. (20d)). *Na-* (in the absence of attenuative *po-*) means ‘a lot of things,’ but not ‘everything’ ((20g)). That is probably why it does not allow for *raz-* (meaning ‘to the end’) to follow—there is a meaning incompatibility (cf. (20e)). *Iz-na-* is probably bad (cf. (20f)) for the same reason for which *na-raz-* is bad, namely meaning incompatibility.

Note that the gloss in (20e–f) is not really indicative of meaning incompatibility, but (20g) does indicate that this should be the case.

- (20)
- a. *na-dam* ‘give a lot’
 - b. *na-pre-pro-dam* ‘sell again a lot of things’
 - c. *na-pro-dam* ‘sell a lot’
 - d. *po-na-pro-dam* ‘sell a little’
 - e. **na-raz-pro-dam* (intended: ‘sell a lot to the end’)

- f. *iz-na-pro-dam (intended: ‘completely sell a lot’)
 g. Na-prodadoh cvetja(*-ta).
NA-sold flowers(-the)
 ‘I sold a lot of flowers’
 (NB: The sentence cannot mean: ‘I sold the flowers.’)

Distributive PO-

Distributive *po-* occurs mainly if completive *iz-* shows up outside and exclusively with prefixed quantized verbs. It can be followed by *na-*, *raz-*, or *pre-*:

- (21) a. iz-po-na-pro-dam ‘sell completely a lot of things one by one (or little by little)’
 b. iz-po-raz-pro-dam ‘sell in excess a lot of things one by one (or little by little)’
 c. iz-po-pre-pro-dam ‘completely sell again one by one’

It is not entirely clear if distributive *po-* has also a kind of attenuative (i.e. diminutive) connotation. A lot of native speakers attribute precisely this kind of connotation to distributive *po-*. This is the reason why it is glossed as ‘little by little’ in the tables in Section 3. In any case, the distributive semantics is reported to be there, diminutive or not.

IZ-

Superlexical *iz-* does not attach to homogeneous verbs. To a limited extent, it can select for simplex quantized verbs (e.g. *iz-kup’a* ‘buy completely’). The combination **iz-na-* is most probably bad for reasons already discussed. *Iz-raz-(pre-)* is good (cf. (22a)). *Iz-po-(na-)* is also good (cf. (22b)). Note that the *po-* here is the already discussed distributive *po-* that only occurs after *iz-*. *Iz-* somehow prefers to be followed by distributive *po-* (cf. (22c)).

- (22) a. iz-raz-(pre-)pro-dam ‘completely sell (again) in excess’
 b. iz-po-(na-)pro-dam ‘completely sell (a lot) one by one’
 c. iz-?(po-) pro-dam ‘completely sell ?(one by one)’

Attenuative PO-

This prefix, like all the others discussed so far, does not attach to homogeneous verbs. It mainly selects for prefixed quantized verbs, although a few simplex quantized can also host attenuative *po-* (e.g. *po-obleka* ‘dress a little bit’). When it stacks on top of other superlexical prefixes, it lowers the degree of intensity of the following prefix. *Po-pre-* is generally good (cf. (23a)). *Po-raz-* is also good (cf. (23b)). Note that the meaning of *raz-* is modified by *po-*, so that the verb means ‘sell almost everything.’ *Po-na+V* is normally good only if *na+V* is also good (cf. (23c)). In this case, *po-* again modifies the meaning of *na-* so that the verb means ‘sell a few things.’

Po-iz-(?po-), although very rare (and hence, not presented in the data in Section 3), also seems to be good (cf. (23d)). Note that *iz-* in the presence of attenuative *po-* does not mean ‘completely,’ but ‘almost completely.’

- (23)
- a. *po-pre-pro-dam* ‘sell again a little bit’
 - b. *po-raz-pro-dam* ‘sell almost everything’
 - c. *na-pro-dam* ‘sell a lot’/*po-na-prodam* ‘sell a few things’
 - d. *po-iz-(?po-)pro-dam* ‘sell almost completely (?one by one)’
 - e. *po-pro-dam*^P ‘sell a little bit’
 - f. *po-pro-da-va-m*^I ‘sell a little bit/for a while’

When attenuative *po-* attaches to (lexically) prefixed verbs, it always means ‘a little bit’ with perfective verbs (cf. (23e)), but can also have the meaning ‘for a while’ with imperfective verbs in progressive readings, or ‘from time to time’ with habitual imperfective verbs. Nothing seems to be able to stack on top of attenuative *po-*.

ZA-

Some instances of inceptive *za-* attach as high as outside *iz-*, completely overriding the meaning of the latter (cf. (24a)). Another case of inceptive *za-* attaches to simplex homogeneous verbs and allows for the aspectual operator to assign either perfective or imperfective value to the verb (cf. (24b)).

- (24)
- a. **za-iz-po-nared*^a/*za-iz-po-narežd-a-m*^I ‘start arranging’
 - b. *peja* ‘sing’ — *za-peja*^P/*za-p’a-va-m*^I ‘start singing’

The ungrammaticality of the perfective verb in (24a) will come as no surprise if we recall the fact that perfective verbs cannot be embedded under phase verbs. Since *za-* means ‘to begin,’ it makes sense for it to only select for imperfective verbs, just like the phase verb “to begin” does.

Now how is one to handle the difference between cases such as (24a) and (24b)? In the first instance, it looks like *za-* selects for a certain type of output of the aspectual operator (i.e. imperfective), so we expect it to merge above AspP. In the second case, *za-* should be merged below AspP in order to be able to quantize the verb and thus allow for the aspectual head to project. Hence, I will tentatively assume the existence of respectively high *za-* and low *za-* and I will come back to this question in the next section.

DO-

Terminative *do-* (meaning ‘finish’) seems to always attach outside a given combination (cf. (25a-d)), yet never above attenuative *po-* which, as expected, modifies the meaning of *do-* (cf. (25e)). Inceptive *za-* is hard to combine with *do-* (cf. (25f)), hence the difficulty in establishing the relative order between the two.

- (25)
- a. do-pro-dam ‘finish selling’
 - b. do-pre-pro-dam (*pre-do-prodam) ‘finish selling again’
 - c. do-pre-raz-pro-dam/do-raz-pre-pro-dam ‘finish selling again to the very end’
 - d. do-iz-po-raz-pre-pro-dam ‘finish re-selling everything to the end’
 - e. po-do-iz-raz-pro-dam ‘almost finish reselling to the end’
 - f. ?za-do-iz-po-na-raz-pre-pro-dam ‘start to finish re-selling everything to the end’
 - g. peja ‘sing’ — do-peja^P/do-p’a-va-m^I ‘finish singing’

Just as with *za-*, another *do-* attaches to simplex homogeneous verbs and allows for the aspectual operator to assign a perfective/imperfective value to such verbs (cf. (25g)).

At this point, an obvious question comes to mind. Why is *do-*, whose meaning is identical to that of the phase verb ‘finish,’ grammatical with perfective verbs that are otherwise ungrammatical when embedded under phase verbs? For now, I can only assume that perfectivity in Bulgarian cuts off the end boundary rather than the initial one and is therefore more compatible with the meaning of *do-* than the meaning of *za-*.

Delimitative PO-

Delimitative *po-* attaches only to simplex atelic verbs (cf. (26)). It does not allow for stacking.

- (26)
- a. peja ‘sing’ — po-peja^P/po-p’a-va-m^I ‘sing for a while’
 - b. igraja ‘play’ — po-igraja^P/po-igra-va-m^I ‘play for a while’

Finally, let me conclude the discussion of the data with two last remarks.

Firstly, scrutiny of the data as presented in Section 3 suggests a rather striking conclusion: native speakers tend to improve grammaticality by increasing rather than reducing the number of the prefixes. For instance, as shown in (27) and (28), *iz-+V* is generally dispreferred compared to *iz-po-+V*. Similarly, *iz-na-* is not grammatical, whereas the combination *iz-po-na-* always proves a good form. *Za-* also requires *iz-* to follow in big stacks, even though the meaning of *iz-* is completely overridden by the meaning of *za-* (cf. (29)).

- (27)
- a. *iz-na-pro-dam
 - b. ?iz-pro-dam ‘completely sell’
 - c. iz-po-pro-dam ‘sell completely one by one’
 - d. iz-po-na-pro-dam ‘completely sell a lot one by one’
- (28)
- a. *iz-na-raz-kaža
 - b. ?iz-raz-kaža ‘narrate completely’
 - c. iz-po-raz-kaža ‘narrate completely one by one’
 - d. iz-po-na-raz-kaža ‘narrate completely many stories one by one’

- (29) za-*(iz-)po-na-raz-kaža ‘start narrating many stories one by one’

As was pointed out to me (Peter Svenonius, p.c.), it might very well be the case that prefixes bind variables. Likewise, prefixes whose presence is required, though their meaning is bleached, might provide a new variable for the outer prefix to bind.

Secondly, below is an example worth discussing from the point of view of meanings determined by scope. As shown in (30), *raz-* and *pre-* seem to be able to flip, the two combinations yielding two different meanings:

- (30) a. raz-pre-pro-dam ‘buy something and then sell it to the end’
 b. ?pre-raz-pro-dam ‘sell, get back, and then sell again to the end’

Although such cases are extremely rare, they clearly show that prefixes inner to the verbal stem are derived lower as they fall in the scope of prefixes outside.

5. Analysis

We naturally expect accomplishments to be most suitable for stacking. They have a process part, an end point or result, and often select for nominal complements. This gives prefixes something to operate on. Achievements and semelfactives on the other hand are predictably more difficult to prefix multiply as they are simpler events. The same is true of intransitive homogeneous verbs. These expectations are in fact borne out. As has been pointed out, superlexical prefixes select exclusively for quantized verbs, preferably prefixed. Slabakova (1997) suggests that all simplex quantized verbs are achievements in Bulgarian, while accomplishments are derived by prefixation. Even though her generalization does not hold in all cases, it is still quite robust and allows for the conclusion that superlexical prefixes in stacks go best with accomplishments.

Scope interaction in stacking as illustrated in examples like (23), (24) and (29) leads to a prediction concerning the derivational hierarchy of prefixes. Prefixes closer to the verbal stem should be derived lower than the ones that appear “far” from the stem, the latter scoping over the former.

It is actually tempting to analyze stacking in the light of Cinque’s (1999) theory of adverb ordering. Clearly, if superlexical prefixes are adjoined to functional heads, those functional heads might just as well be the same as the ones hosting adverbs in their Specs. (Cinque 1999:83) is concerned with the particular adverb classes that correspond to different types of “grammatical” aspects, i.e. outer aspect in the sense of Verkuyl (1987), or viewpoint aspect in Smith’s (1991) terms. I will not make any further attempts to match Cinque’s adverb hierarchy with the one I am going to propose for superlexical prefixes. The idea, it should be noted however, is essentially the same. My initial claim was that prefixes in Bulgarian bring about quantization rather than perfectivity. That is, they should be

considered within what Verkuyl (1987) calls inner aspect, and Smith (1991) situation aspect. Thus, as I argue in Istratkova (in progress), prefixes can be merged in two structural positions below AspP, where they quantize. This was already shown in (9). However, we just saw that superlexical prefixes in stacks select for already quantized predicates. Moreover, as was shown in (18a), some prefixes impose selectional requirements on the output of AspP. Therefore, I suggest they should be merged above AspP and thus modify “grammatical” or outer aspect in much the same way as Cinque proposes for his adverbs.

The fact that superlexical prefixes in stacks seem to be merged in structural positions above AspP is a welcome result if we are to take seriously Tenny’s (1994) requirement that there be a single quantization per predicate. Obviously, the requirement in question only holds in the lower clausal domain. As already pointed out, in Istratkova (in progress) I show that that the co-occurrence of morphemes merged in Q1 and Q2 in (9) always results in a single quantization. Clearly, there is no such requirement in the higher clausal domain, Asp marking off the border between the two. Similarly, in English too we can have two delimitations once we get to the higher clausal domain:

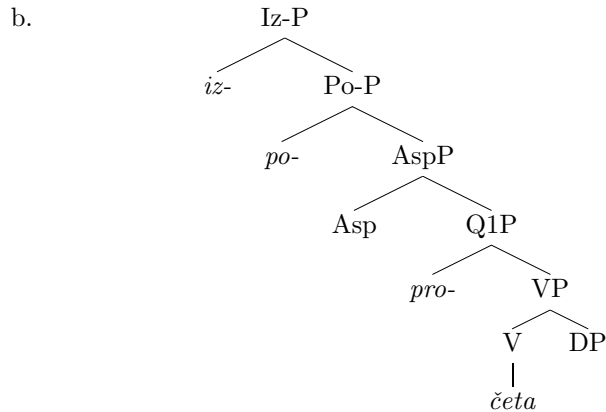
- (31) a. *John washed the clothes [clean] [white].
 b. John hammered the metal [flat] [for 10 minutes], then he went to the movies.
 c. John swam [a mile][from 3 to 5 in the afternoon].

Thus, I suggest the hierarchy in (32):

- (32) attenuative PO- > ZA- > DO- > IZ- > distributive PO- > NA- > RAZ- > PRE- > superlexical prefix/semelfactive suffix > lexical prefix > VP

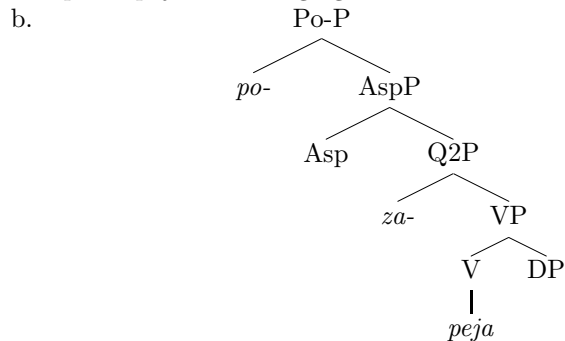
Recall that inceptive *za-* and terminative *do-* can be merged high and low. Similarly, *po-* can be merged in different structural positions and thus yields different meanings. I suggest that low *za-* and *do-* as well as delimitative *po-* be merged in Q2, just like any other quantizing superlexical prefix is, in order for the Asp head to be able to project. Occasionally, other superlexicals (e.g. *na-reža* ‘cut into many pieces’) can be merged in the lower structural domain (i.e. in Q2), though to a very limited extent. In Istratkova (in progress), I show that if a quantizing lexical prefix is already merged in Q1, nothing can be merged in Q2. In this case, any superlexical prefix attached outside the lexical one is derived above AspP. Thus, stacking of superlexicals on a verb already quantized by a lexical prefix (cf. (33a)) should be derived as shown in (33b) (irrelevant details omitted in the tree representation):

- (33) a. *iz-po-pro-četa* ‘read through completely little by little’



Now the question is, if nothing is merged in Q1 and there is a superlexical prefix in Q2, would that allow for any superlexical from the higher clausal domain to stack outside? The answer is NO. Strikingly, only attenuative *po-* will attach on top of low *za-* for example, which repeats the semantic hierarchy above AspP where inceptive *za-* too can only be preceded by attenuative *po-* (again, the tree is given in (34b) with irrelevant details omitted):

- (34) a. *po-za-peja* ‘start singing a bit’

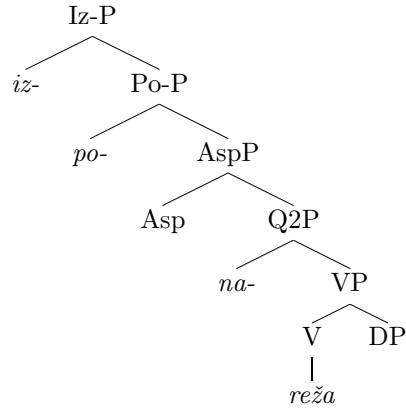


Similarly, nothing can stack on top of low *po-*, just like high *po-* is the outermost.

Now take cumulative *na-* which, as already mentioned, can be merged in Q2, though in extremely few instances. In this case the prefixes that can stack on top again mirror the upper clausal hierarchy:

(35) a. *iz-po-na-reža* ‘cut completely into many pieces little by little’

b.



To explain the facts I will assume that the prefixal hierarchy in (32) is semantically motivated and that if a given superlexical prefix is merged in a lower structural position, it still gets “linked” as it were semantically to its higher counterpart. To put it somewhat more technically, it is not implausible to assume that *na-* in (35), although originally merged in Q2, is interpreted above AspP in the position marked semantically as “cumulative.” If so, *na-* is expected to comply with all the semantically based selectional requirements associated with the structural position “cumulative” regardless of where it is originally merged.

Finally, one last note is in order. The assumption that prefixes are derived in head position runs into trouble if we assume left adjunction of heads moving from lower positions upward. That is, if the verb were to pick up affixes on its way up, the affixes in question are expected to get suffixed to the right of the verb contrary to what we actually see in stacking. Similar problems are addressed and accounted for in Julien (2000). In particular, she proposes that complex units can be interpreted as single words with no movement involved. Whether some account along similar lines can be adopted here is a question that I leave open for further discussion.

6. Conclusion

In this paper I looked at cases of multiple prefixation in Bulgarian. It was shown that lexical prefixes are more likely to attach to homogeneous verbs, while superlexical prefix preferably attach to already quantized verbs, mostly accomplishments. It was also shown that the requirement that there be a single quantization per predicate (Tenny 1994) does not hold in the upper clausal domain, i.e. above AspP. Scope effects and interaction showed that prefixes closer to the stem are derived lower. Likewise, superlexical prefixes were shown to stack in a fixed order:

- (36) attenuative PO- > ZA- > DO- > IZ- > distributive PO- > NA- > RAZ- > PRE- > superlexical prefix/semelfactive suffix > lexical prefix > VP

The fixed order of superlexicals in stacks exhibit is reminiscent of Cinque's (1999) adverbial hierarchy. I suggested that Bulgarian superlexical prefixes modify the output of AspP in much the same way as Cinque's adverbs modify grammatical aspect. Importantly, it was shown that some superlexicals can be merged in two structural positions but nevertheless exhibit the same semantic selectional restrictions.

Why are such massive stacks not attested in other Slavic languages? If we are to take Cinque's (1999) account seriously, it is certainly the case that Bulgarian, but not the other Slavic languages, chooses to lexicalize aspectual meanings corresponding to certain functional heads by merging bound morphemes (i.e. superlexical prefixes) in head positions. Presumably, the rest of the Slavic world modifies grammatical aspect by merging adverbs in the Specs of the same functional heads. That is most probably what makes Bulgarian look so much different from the rest of the Slavic family.

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